

2007 STATEWIDE MUNICIPAL SOLID WASTE MANAGEMENT UPDATE

Energy and Environment Cabinet Division of Waste Management

Executive Summary

BACKGROUND

Solid waste issues became a major focus in the late 1960s when the first solid waste legislation was passed. Kentucky Revised Statute (KRS) Chapter 109 enacted in 1966 gave counties the ability to establish “109 boards” to address solid waste issues. Subsequent legislation furthered the development of county authority and responsibility for penalties for non compliance and development of five-year solid waste plans. The five-year solid waste plans provide for access for all households to garbage collection, cleanup of illegal open dumps and litter, recycling and solid waste education. Annual progress reports are submitted to the Energy and Environment Cabinet (EEC) providing the basis for cabinet recommendations to the governor and the General Assembly.

The Kentucky Recycling and Marketing Assistance (KRMA) program was established in 1998 to assist local governments in development of recycling infrastructures. Cost for development of recycling programs has always been an issue with local governments.

The Kentucky Legislature enacted House Bill (HB) 174 in 2002, establishing the Kentucky Pride Fund with a \$1.75 environmental remediation fee paid on each ton of waste disposed in Kentucky landfills. Funding from the fee is used to characterize orphan landfills and remediate illegal open dumps. Local governments may apply for grant funding for 75 percent of the cost of cleaning illegal open dumps. HB 174 further established an annual transfer of \$5 million from the Transportation Cabinet for litter abatement activities.

Senate Bill (SB) 50, enacted in 2006, amended HB 174 authorizing a portion of the funding generated through the \$1.75 environmental remediation fee to be used for recycling and household hazardous waste grants. The first recycling grants were awarded in June 2007. The cabinet anticipates growth in recycling infrastructures due in large part to the funding authorized by the General Assembly and the support of local governments.

ACHIEVEMENTS

- *Fewer illegal dumpsites identified* –The number of new dumpsites identified has declined 59 percent since 2003. More than 24,000 illegal open dumps have been cleaned since 1993 at a cost of over \$60.1 million dollars, an average cost of \$2,497 per dumpsite.
- *Litter along public roads decreases* – There has been an 18 percent decline in litter along public roadways since 2005. The Kentucky Pride Fund, Eastern Kentucky PRIDE, Bluegrass PRIDE, Transportation Cabinet, Adopt-A-Highway and cities and counties contributed to the cleanup of 12,396,880 pounds of litter at a cost of \$8.8 million during 2007 – more than 520,000 pounds less than in 2005. The average cost per pound of litter picked up increased from 65 cents in 2006 to 71 cents in 2007.
- *Recycling* -- Kentuckians recycled 25 percent of common household recyclables (aluminum, cardboard, steel, plastic, newspaper, glass and paper) in 2007. Kentuckians recycled 30 percent of all municipal solid waste in 2007, which included sludge, concrete, compost and asphalt in addition to the common household recyclables.

- *Curbside collection* -- Participation in curbside garbage collection has remained steady following legislation in 2002 requiring waste haulers and recycling haulers to register and report to each county in which they provide service. The 2007 statewide household participation rate for all collection types is 87.05 percent.
- *Waste Tire Program* -- The Waste Tire Trust Fund was reauthorized in the 2006 General Assembly and will be in effect until July 31, 2010. The recycled tires are beneficially reused for purposes such as tire-derived fuel and crumb rubber for athletic fields and schools and community parks. In 2007, Kentucky recovered more than 1.1 million passenger tire equivalents.
- *Crumb rubber grants awarded* -- In 2007, the Waste Tire Trust Fund awarded 50 grants totaling \$1.2 million to assist schools and communities in projects using crumb rubber from waste tires for athletic fields, gyms, parks and community playgrounds.
- *The cabinet continues to make recycling a priority for the state:*
 - The 2006 General Assembly expanded the Kentucky Pride Fund to include recycling infrastructure development and household hazardous waste management/collection programs. Twenty-six entities were the first to receive the new recycling grant in 2007 totaling \$2.3 million.
 - The cabinet is working with the Finance and Administration Cabinet to eliminate outsourcing of governmental waste paper for recycling. The Government Recycling Section gives presentations to all EEC new employees on recycling waste paper.
 - The Kentucky Recycling Interest Group (KRIG), in association with the Division of Waste Management, Kentucky Recycling and Marketing Assistance (KRMA) staff and the Kentucky Pollution Prevention Center, actively began facilitating programs to further develop the recycling infrastructure of the state.
- *The Division of Waste Management's state government office paper recycling program thrives* – The government office paper recycling program serves more than 115 building locations in Frankfort collecting office paper, computer paper, newsprint and cardboard. State employees recycled 3,422,645 pounds of waste paper in 2007, approximately 300 pounds per state employee. Confidential document destruction provides a zero cost alternative to state and local governments.

RECOMMENDATIONS

Expand training sessions to all employees within state government on the benefits of recycling governmental waste paper. Recycling waste paper is beneficial to the environment and a savings of taxpayer dollars. Our goal is for Kentucky state government to be No. 1 nationally in paper recycling.

Promote awareness regarding the expense of littering to the commonwealth. Encourage local and state law enforcement to increase enforcement activities for criminal littering.

Increased reporting requirements from transfer stations and convenience centers is needed to ensure adequate tracking for households participating in proper disposal of municipal solid waste, and accountability for waste disposal and environmental fee collection.

2007 STATEWIDE MUNICIPAL SOLID WASTE MANAGEMENT UPDATE

Energy and Environment Cabinet Division of Waste Management

Municipal Solid Waste Reduction

The cabinet has monitored solid waste disposal since 1993. While HB 174, enacted in 2002, eliminated the 25 percent reduction goal initiated in Senate Bill 2 in 1993, it did establish policies to limit and reduce the amount of solid waste disposed through the reduction in the amount of waste generated. The bill also encouraged recycling, yard waste composting and resource recovery.

In 2007, Kentucky experienced a 3 percent decrease in Kentucky waste disposal in Kentucky landfills and a 25 percent increase in the amount of out-of-state waste disposed in Kentucky landfills. Kentucky exported 6 percent of its waste to out-of-state landfills, an increase from 4 percent in 2006. Kentucky's total waste generation rate for 2007 increased by 5 percent.

Kentucky's recycling rate on common household items (aluminum, cardboard, steel, plastic, newspaper, glass and paper) increased from 27 percent in 2006 to 31 percent in 2007. The average recycling rate in the Southeast Region in 2006 was 22 percent, while the national average was 28.5 percent. (*The national recycling rate for 2007 had not been released at the time of publication.*) The first recycling grants were awarded in June 2007. As these new recycling programs establish themselves, Kentucky's recycling rates should increase and set an example for other states.

The average cost for waste disposed at Kentucky landfills in 2007 was \$29.62 per ton. Chart No. 1 illustrates the comparison of tonnages of in-state, out-of-state and the combined total of municipal solid waste received at landfills and the amount in tons of recycled materials in Kentucky, beginning with the base year 1994. Chart No. 2 displays the actual numbers referred to in Chart No. 1.

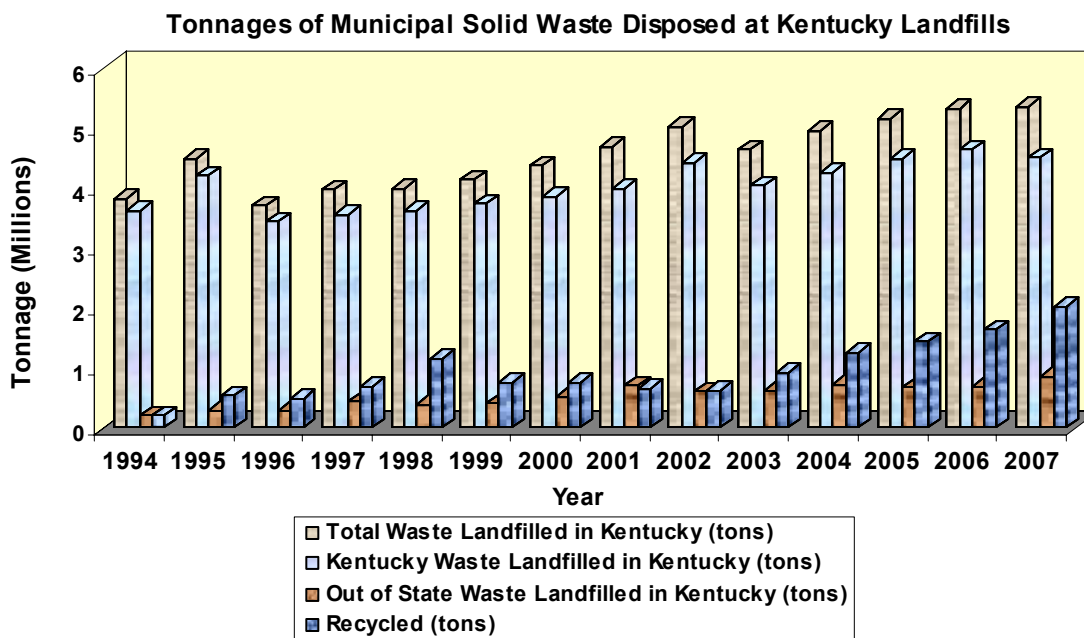
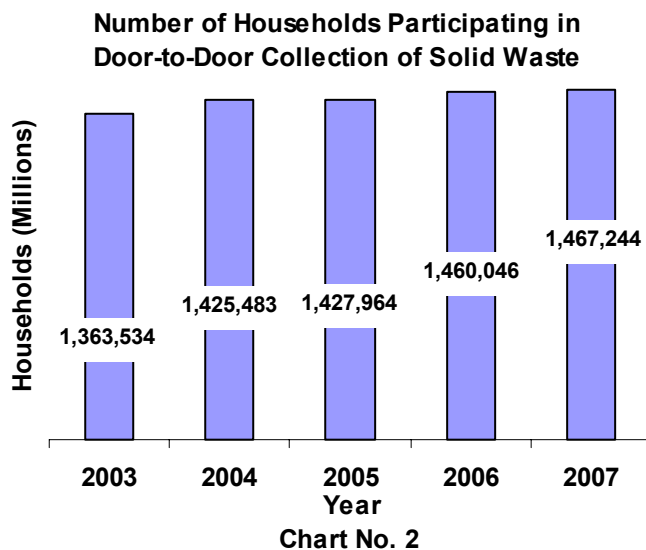


Chart No. 1

Year	Total Waste Landfilled in Kentucky (tons)	Kentucky Waste Landfilled in Kentucky (tons)	Out of State Waste Landfilled in Kentucky (tons)	Recycled (tons)	Percentage of Nationally	Percentages Kentucky
1994	3,813,365	3,621,623	191,742	191,684	23%	5%
1995	4,476,904	4,207,071	269,833	529,423	27%	11%
1996	3,700,832	3,429,983	270,849	474,415	28%	12%
1997	3,972,746	3,543,196	429,550	685,650	30%	16%
1998	3,989,181	3,615,890	373,291	1,150,620	31.5%	24%
1999	4,130,796	3,734,798	395,998	739,136	33%	16%
2000	4,375,652	3,860,516	515,136	742,398	32%	16%
2001	4,683,702	3,982,260	701,442	644,925	*	13%
2002	5,014,407	4,415,859	598,548	615,476	26.7%	12%
2003	4,642,560	4,036,800	605,760	919,802	*	18% **
2004	4,961,476	4,259,181	702,295	1,237,294	*	22% **
2005	5,157,185	4,493,499	663,686	1,429,490	30.0%	22%
2006	5,317,765	4,636,351	681,414	1,626,778	28.5%	26%
2007	5,351,897	4,500,843	851,055	2,005,249	*	31%

* National data is not available for 2001, 2003 and 2004 percentages.

** 2003 and 2004 Kentucky percentage increases are partially attributable to better data, due to a new state law that took effect mid-2002 requiring recyclers to register and report amounts and types of materials recycled. Kentucky municipal solid waste recycled figures are for: aluminum, cardboard, steel, plastic, newsprint, glass and paper.



Factors Affecting Municipal Solid Waste Collection

Municipal Solid Waste Collection Programs

Participation in collection systems has steadily increased since 2003. Beginning Oct. 1, 2003, waste haulers and recyclers were required to register and report annually to the county the number of households utilizing collection service.

Since 2003, participation in door-to-door collection service has increased 7 percent. Since the cabinet began gathering data in 1993, participation in door-to-door collection service has increased 44 percent. Chart No. 2 shows the number of households participating in collection systems from 2003 to 2007.

The average participation rate for collection systems in 2007 is 87.05 percent, which means approximately 13 percent of households (219,115 households) are disposing of their garbage illegally or are not accounted for by current tracking methods. Self-haul to a transfer station or convenience center is a legal method of disposal. However, most counties have difficulty tracking customers to these type facilities. Increased reporting requirements from transfer stations and convenience centers is needed to ensure adequate tracking for households participating in proper disposal of municipal solid waste.

Cleanup of Illegal Open Dumps

Since 1993 more than 24,000 illegal open dumpsites have been cleaned at a cost of \$60.1 million. Chart No. 3 shows the number of dumpsites cleaned since 2003. In 2007, counties cleaned 531 illegal open dumps at a cost of \$2.2 million. The average cost to clean each dumpsite was \$4,143. There are 721 known dumpsites remaining in 2007.

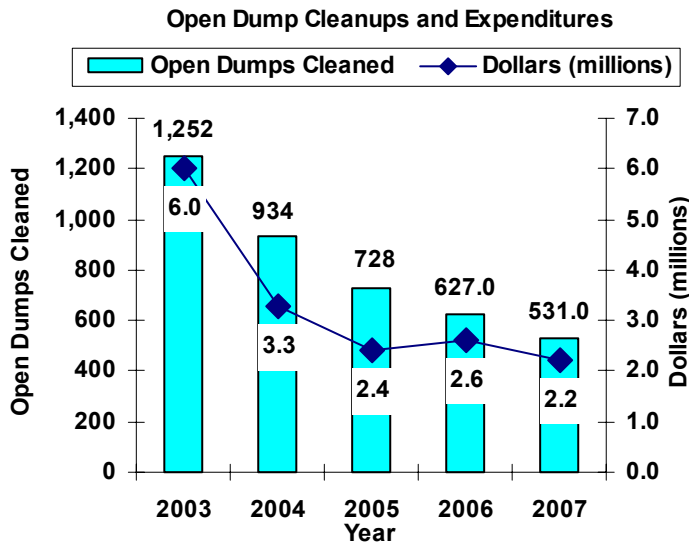


Chart No. 3

Since 2002, the Kentucky Pride Fund (\$1.75 environmental remediation fee) Illegal Open Dump Grant program has funded the cleanup of 791 dumpsites at a cost of more than \$2.6 million. The fourth round of illegal open dump grants was awarded in January 2008 for the remediation of 293 dumpsites at a cost of \$3 million.

Litter Abatement

The division began tracking the cost of litter activities and the number of bags of litter collected in 2001. State litter abatement grant funding (Kentucky Pride Fund) began in fiscal year 2002. The cabinet receives \$5 million annually from the Transportation Cabinet for distribution to counties and incorporated cities for litter abatement activities.

The success of litter abatement campaigns across the commonwealth is evident in the reduction of litter being picked up along roadways. Since 2005, there has been an 18 percent decline in the amount of litter collected from roadways. In 2007, counties cleaned more than 162,000 miles of roadways collecting more than 26,000 fewer bags than in 2006.

Litter collection costs totaled \$8,846,568.25, an average cost of 71 cents per pound (\$1,420 per ton). The majority of items found on roadways are plastic bottles and food containers. Litter is costly at \$1,420 per ton when compared to the average landfill disposal rate of \$29.62 per ton.

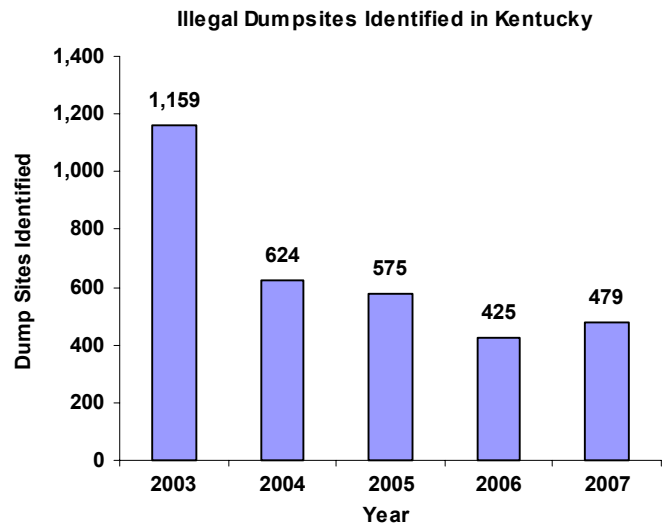


Chart No. 4

Chart No. 5 reflects the number of bags of litter collected and the amount spent on litter for calendar years 2001-2007.

The Great American Cleanup

The Great American Cleanup, sponsored by Keep America Beautiful, runs March through May annually. The three-month period includes the cleanups sponsored by Commonwealth Cleanup Week (proclaimed the last week of March by the 1998 legislature), Eastern Kentucky PRIDE and Bluegrass PRIDE.

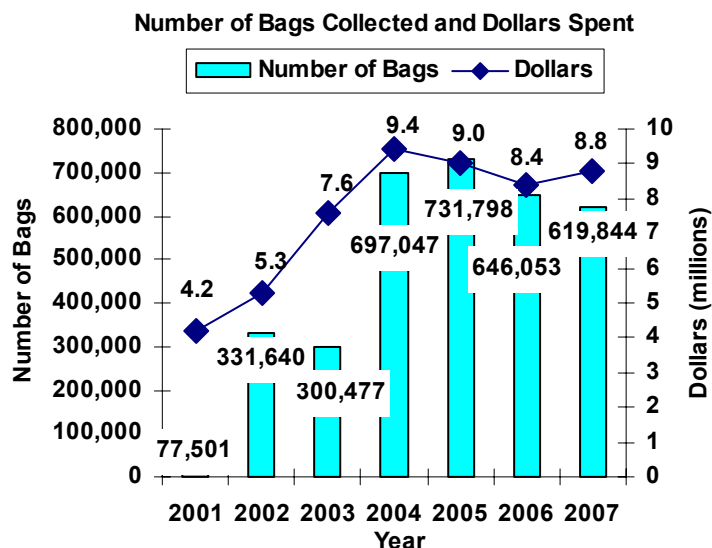


Chart No. 5

The theme for the 2007 Commonwealth Cleanup was *“Don’t Litter – Pick up the Habit.”* Commonwealth Cleanup Week is the combined efforts of city and county governments, individuals, businesses, nonprofit groups and various state agencies promoting Kentucky’s unbound beauty. The success of Commonwealth Cleanup Week is demonstrated by the more than 5,000 volunteers and county and state employees who cleaned over 1,800 miles of road and 26 illegal dumpsites while collecting less waste. The success is in educating our citizens about waste issues and those results are showing along our roadways and countryside. The Great American Cleanup results are listed below for calendar years 2003 - 2007.

Year	Participating Counties	People	Dumps Cleaned	Miles Cleaned	Tons Recycled	Bags of Trash	Number of Appliances	Tons of Trash Disposed	Tires Recycled/Disposed
2003	91	23,218	171	1,289	713	59,885	6,030	6,606	85,535
2004	89	10,517	366	3,514	1,525	46,725	3,338	5,074	183,780
2005	50	31,239	88	3,652	881	89,652	5,599	2,500	264,590
2006	34	6,381	38	2,016	369	19,061	1,189	1,054	34,340
2007	40	5,151	26	1,846	158	14,860	410	978	3,956

Enforcement

In 1997 the cabinet began an emphasis on enforcement of illegal open dumping. Enforcement and education alerts citizens to proper management of solid waste. These efforts result in the creation of fewer illegal open dumps. In 2007, state inspectors issued 235 Notices of Violations (NOVs) on illegal dumping. Local governments are also increasing the prosecution of illegal open dumping, littering, non payment of garbage bills and non participation in a county’s mandatory collection system.

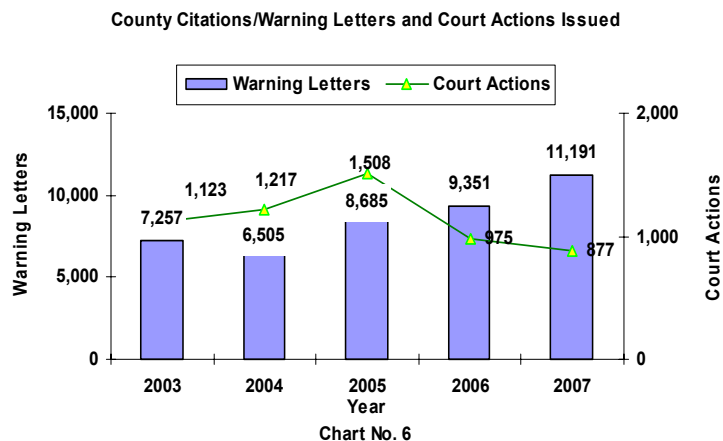


Chart No. 6

Chart No. 6 shows the number of county-issued citations and warning letters and subsequent court actions for the calendar years 2003 – 2007.

Education

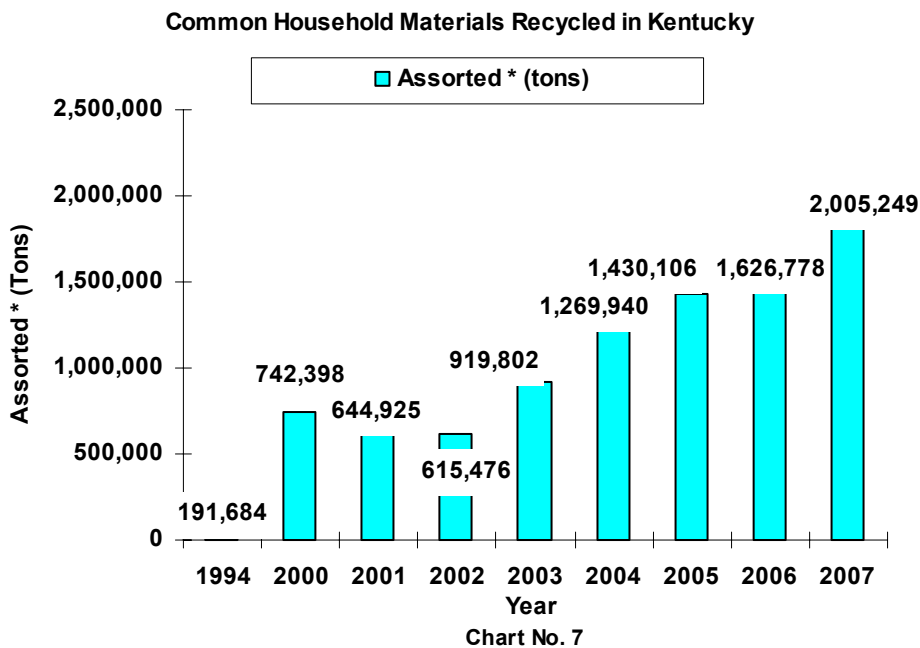
Virtually all counties provide some level of solid waste education. Counties conduct local activities through schools, radio, newspapers, television, brochures, fairs, contests, etc. Civic groups, extension service, homemakers clubs, school groups, Department for Environmental Protection staff and local nonprofit organizations all provide support through local involvement in solid waste education activities.

The cabinet hosts solid waste training and education workshops twice a year for county solid waste coordinators, area development district staff, environmentalists, elected officials and interested citizens. State staff also provides assistance and ensures compliance through annual site visits to all counties, monthly newsletters, daily phone calls and correspondence.

At the request of the Kentucky Association of Counties (KACo), the Division of Waste Management, Recycling and Local Assistance Branch conducted four three-hour classes on the Basic's of Solid Waste Management. This training class provided basic solid waste management requirements to new county judge-executives, magistrates and commissioners.

County Recycling and Recycling Education Programs

County recycling data illustrates a steady increase in the statewide recycling rates of common household items such as glass, aluminum cans, newspaper, mixed and white office paper, cardboard, metal and plastics through 2006. County data shows a decline in common household items recycled in 2007. Chart No. 7 reflects the amount in tons of common household items recycled in Kentucky since 2000.



Beginning March 1, 2004, HB 174 required recyclers to report annually to the county the amount of municipal solid waste collected for recycling by volume, weight, or number of items and the type of items recycled. The decrease in common household items recycled may be reflective of economic times. Many recyclers hold recyclables in anticipation of an increase in the market value.

SB 50 amended the Kentucky Pride Fund to provide grants for the development and expansion of recycling programs and household hazardous waste management. The first recycling grant was awarded in June 2007 to 26 entities for a total of \$2.3 million. Reports on recycling grant funding are due to the Division of Waste Management on June 30, 2008. The new recycling grants and education efforts by local governments should result in increases in the recycling rates.

State Recycling Programs

The Division of Waste Management, Government Recycling Section continues to operate the state paper recycling program serving more than 115 building locations in Frankfort. The Government Recycling program is self-supporting paying for seven full-time staff positions. The Government Recycling Section offers free pickup and free document destruction of governmental office paper. The Government Recycling Section moved to its new location on Northgate Drive in June 2006. The new facility offers a secured environment to address confidentiality issues. Office paper represents 80 percent of the waste stream in the office environment. The cabinet has been tracking the amount of governmental waste paper recycled since 1993, with more than 31 million pounds of paper being recycled. Since 2003, state employees recycled more than 15 million pounds of waste paper, generating more than \$807,000 in revenue.

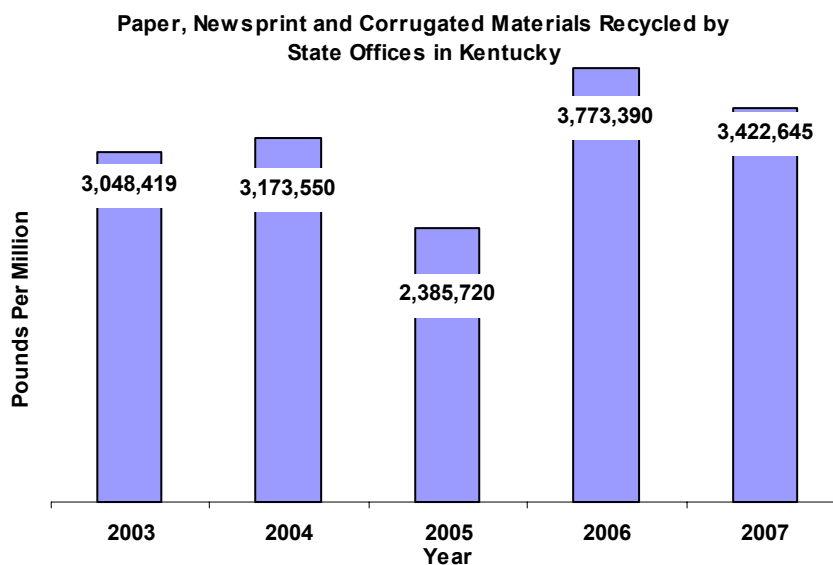


Chart No. 8

In 2007, government offices recycled 3,422,645 pounds (1,711 tons) of paper, newsprint and cardboard, approximately 300 pounds per state employee. Chart No. 8 reflects the millions of pounds of governmental waste paper recycled for calendar years 2003–2007.

Kentucky Recycling and Marketing Assistance Program (KRMA)

The Division of Waste Management's recycling grants committee reviewed more than 40 recycling grant applications and awarded \$2.3 million to 26 cities, counties, and universities in 2007. The grants are funded through the \$1.75 Environmental Remediation Fee paid on each ton of waste disposed in Kentucky landfills. The goal is to encourage recycling in areas where few recycling opportunities for citizens exist, with an emphasis on regional recycling.

The Kentucky Recycling Interest Group (KRIG) reorganized in 2007 and joined with the Kentucky Pollution Prevention Center to facilitate a much needed statewide program to further develop the recycling infrastructure of the state. More meetings are scheduled into 2008.

Electronic scrap (e-scrap) collection is growing in the state, with approximately 31 counties offering some type of e-scrap collection. Year-round e-scrap drop-off programs are increasing across the state with 10 counties now offering it. Another 21 counties offer some type of e-scrap collection, whether periodic or an annual event. More than 2,400 tons of e-scrap was collected in 2007. The 2008 Recycling Grant program will broaden to include household hazardous waste, e-scrap and mercury collection events.

The glass pulverizer loan project produced 50 tons of pulverized glass in Mason County during the summer of 2007.

Mercury collection events were held by 12 counties with some of the events serving several counties. The events amassed 1,870 pounds of mercury and mercury-containing equipment. These events were made possible by the Kentucky Pride Fund.

The End of Life Vehicle Solutions – 2007 (ELVS), targets mercury-containing switches removed from automobiles before the autos are salvaged for scrap metal. The program collected 15.62 pounds of mercury from 7,100 switches from 38 participants.

Waste Tire Trust Fund

The Waste Tire Trust Fund was reauthorized in the 2006 General Assembly and will be in effect until July 31, 2010. Funding comes from a \$1 fee charged on the sale of all new replacement motor vehicles tires sold in Kentucky. The fund is used to conduct waste tire amnesty programs, crumb rubber grants, and market development for the use of waste tires.

In 2007, the Waste Tire Amnesty Program held collection events in the Buffalo Trace, FIVCO, KIPDA, Northern Kentucky and Cumberland Valley area development districts resulting in 1,122,377 passenger tire equivalents being collected and recycled.

Crumb Rubber Grants

From 2004 – 2007, the cabinet awarded 162 grants totaling more than \$4.6 million to local government and schools for the use of crumb rubber made from recycled tires on athletic fields and playgrounds. Fifty grants totaling \$1.2 million were awarded for crumb rubber projects to be completed during calendar year 2007. Funding for the crumb rubber grants comes from the Waste Tire Trust Fund.